L3: Entry 27 of 28 File: USPT May 6, 1980

DOCUMENT-IDENTIFIER: US 4201770 A
TITLE: Antigenic modification of polypeptides

Detailed Description Text (15):
Subunits and fragments of the proteinaceous reproductive hormones include the beta subunit of natural Follicle Stimulating Hormone, the beta subunit of natural Human Chorionic Gonadotropin, fragments including, inter alia, a 20-30 or 30-39 amino acid peptide consisting of the C-terminal residues of natural Human Chorionic Gonadotropin beta subunit, as well as specific unique fragments of natural Human Prolactin and natural Human Placental Lactogen, which may bear little resemblance to analogous portions of other protein hormones. Further with respect to the type of novel chemical entities with which this invention is concerned, one may note for instance the chemical configuration of the beta subunit of HCG. That structure is as follows:

L3: Entry 16 of 28 File: USPT Dec 3, 1996

DOCUMENT-IDENTIFIER: US 5580723 A
TITLE: Method for identifying active domains and amino acid residues in polypeptides and hormone variants

Brief Summary Text (14):
Peptide fragments from hGH have also been studied by non-covalently combining such fragments. Thus, several investigators have reported the analysis of the combination of relatively large fragments of human growth hormone comprising either the natural amino acid sequence or chemically modified peptides thereof. Burstein, S., et al. (1979) J. of Endo. Met. 48, 964 (amino terminal fragment hGH-(1-134) combined with carboxyl-terminal fragment hGH-(141-191)); Li, C. H., et al. (1982) Mol. Cell. Biochem. 46 31; Mills, J. B., et al. (1980) Endocrinology 107, 391 (subtilisin-cleaved two-chain form of hGH). Similarly, the chemically modified fragment hGH-(1-134) and a chemically modified carboxy-terminal fragment from human chorionic somatomammotropin (also called placental lactogen), (hCS-(141-191)), have been non-covalently combined, as have the chemically modified fragments hCS-(1-133) and hGH-(141-191). U.S. Pat. No. 4,189,426. These investigators reported incorrectly that the determinants for binding to the hepatic growth hormone receptor are in the first 134 amino-terminal residues of growth hormone (Burstein, et al. (1978) Proc. Natl. Acad. Sci. USA 75, 5391-5394). Clearly, such techniques are subject to erroneous results. Moreover, by utilizing two large fragments this technique is only potentially able to localize the function to one or the other of the two fragments used in such combinations without identification of the specific residues or regions actively involved in a particular interaction. A review of some of the above techniques and experiments on hGH has been published. Nichol, C. S., et al. (1986) Endocrine Rev. 7, 169-203.